

ABSTRACT OF THE INVENTION

A light emitting diode (LED) is disclosed. The problem of an emitting light absorbed by a substrate can be prevented by using a bragg reflector layer with high reflectivity. The present invention provides a high reflectivity bragg reflector layer to reflect the light generated from LED, which comprises high aluminum-contained AlGaAs/AlGaInP layers or high aluminum-contained AlGaAs/ low aluminum-contained AlGaInP layers, formed on the substrate before the vertically stacked epitaxial structure of the light emitting diode is formed. Due to the higher oxidation ability of the high aluminum-contained AlGaAs layers and the lower refraction index of the oxide thereof, the wavelength reflected by the bragg reflector layer can cover a wider spectrum and the reflectivity thereof is very high. Since the oxidized AlGaAs layer is an electrical insulator, the present invention provides electrodes located on the same side of the light emitting diode. Thus, the internal resistance of the light emitting diode can be decreased, and the electro-optics transferring rate can be increased. In this way, the light emitting diode having the structure as described above has a higher light efficiency than the conventional light emitting diode.

TOKYO ELECTRON LIMITED